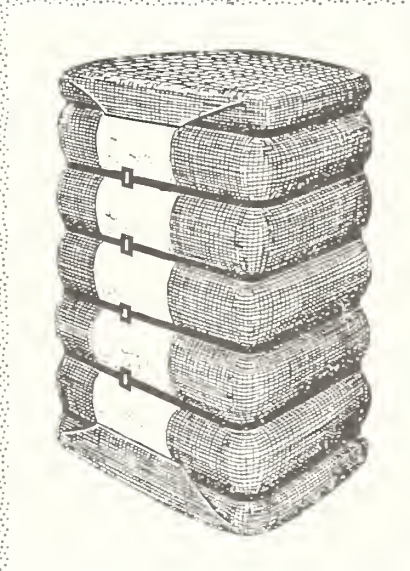


COTTON GIN OPERATING COSTS IN WEST TEXAS 1968 - 69

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ABSTRACT

This report, the third in a series, analyzes gin operating costs in West Texas in 1968-69. The gin sample from which these data were obtained is stratified by rated hourly capacities into four size groups. Capacity utilization rates and ginning volumes in West Texas gins were higher in 1968-69, compared with 1967-68, while per bale operating costs were generally lower. Increases in some unit costs--labor, repairs, and miscellaneous--more than offset declines in other, resulting in higher average out-of-pocket costs for two larger gin size groups and for all sample gins combined.

Key Words: Cotton gins, capacity utilization rates, ginning volumes, book costs, standardized book costs, out-of-pocket costs

COTTON GIN OPERATING COSTS IN WEST TEXAS--1968-69

by

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INTRODUCTION

This is the third annual report based on a continuing study of gin operating costs in West Texas. The first report, Cotton Gin Operating Costs in West Texas, MRR-831, ERS, USDA, November 1968, covered 2 years, the 1965-66 and 1966-67 seasons; and the second report, Cotton Gin Operating Costs in West Texas, 1966-67 and 1967-68, MRR-844, ERS, USDA, March 1969, compared 1967-68 costs with those of the previous season.

Copies of gin records are mailed in annually for analysis and for use in these reports. Findings for the 1967-68 season have been repeated in this report to provide comparisons and to indicate possible trends.

The gin sample on which findings in the first report were based consisted of 36 plants, stratified by size, into four groups. Each group was delineated on the basis of rated hourly capacities as follows: Group 1 -- 8 bales or less, Group 2 -- 9 to 11 bales, Group 3 -- 12 to 20 bales, and Group 4 -- 21 bales or more. Since the inception of this study, sample size has grown almost continually because of the necessity of annually reclassifying some of the original plants into different size groups and filling the voids thus created with new plants. During the 1968-69 season, there were 42 plants in the sample representing a total of 212,766 bales or 13.8 percent of the total ginning for the West Texas area.

Widespread interest in this study has resulted in the development of plans to initiate similar studies in two other areas of the State.

FINDINGS

The 1968-69 season saw a reversal in the downward volume trend. For the first time since this study was initiated (1965), ginning volumes in West Texas showed an increase over the previous year. In 1968-69, average volumes ginned ranged from 20 percent higher for Group 3 gins to 44 percent greater for Group 1 plants, compared with 1967-68 (table 1). Although this was an encouraging development, ranges and averages by size groups and for all sample gins combined were still well below 1965-66 figures in all cases. Larger ginning volumes mean fuller utilization of gin plant facilities, usually more efficient use of labor and energy, and generally lower operating costs.

Table 1.--Rated hourly capacities, volumes ginned, and capacity utilization, by ranges and averages, for sample gin plants, West Texas, 1965-66, 1966-67, 1967-68, and 1968-69 seasons

Gin size by season	Rated hourly capacity 1/		Annual volume ginned		Rate of capacity utilization 2/	
	Range	Average	Range	Average	Range	Average
	-----Bales-----				-----Percent-----	
1965-66						
Group 1.....	7 - 8	7.7	2,017 - 7,610	4,734	37 - 124	80
Group 2.....	9 - 11	9.3	2,386 - 9,983	4,840	31 - 144	68
Group 3.....	12 - 20	16.0	4,015 - 18,707	8,938	38 - 126	73
Group 4.....	21 - 44	28.3	6,592 - 24,277	11,729	36 - 99	54
Combined...	7 - 44	15.1	2,017 - 24,277	7,560	31 - 144	65
1966-67						
Group 1.....	7 - 8	7.7	1,452 - 5,786	3,144	24 - 107	53
Group 2.....	9 - 11	9.3	300 - 6,573	2,670	4 - 95	37
Group 3.....	12 - 20	16.0	1,525 - 9,031	5,460	16 - 89	44
Group 4.....	21 - 44	28.3	2,776 - 13,136	6,448	16 - 56	30
Combined...	7 - 44	15.1	300 - 13,136	4,431	4 - 107	38
1967-68						
Group 1.....	7 - 8	7.8	649 - 6,741	2,516	11 - 109	42
Group 2.....	9 - 11	9.3	130 - 5,290	2,152	2 - 69	30
Group 3.....	12 - 20	15.9	1,749 - 9,263	5,011	16 - 75	40
Group 4.....	21 - 44	28.3	2,233 - 11,086	6,114	11 - 47	28
Combined...	7 - 44	15.1	130 - 11,086	3,874	2 - 109	33
1968-69						
Group 1.....	7 - 8	7.6	625 - 5,828	3,616	10 - 101	62
Group 2.....	9 - 11	9.1	1,691 - 4,853	3,056	24 - 70	44
Group 3.....	12 - 20	15.8	1,546 - 13,393	6,038	14 - 87	50
Group 4.....	21 - 67	32.9	847 - 17,356	7,775	5 - 81	31
Combined...	7 - 67	15.7	625 - 17,356	5,066	5 - 101	42

1/ Manufacturers rating of gin stand complex. Variations between seasons and averages due to shifts of sample gins among size groups.

2/ Ratio of volume ginned to estimated total seasonal ginning capacity without seed cotton storage. Based on typical ginning season of 906 operating hours and a sustained seasonal capability set at 85 percent of manufacturers ratings.

Gin capacity utilization in 1968-69 was up for each size group, compared with the previous season. This measurement of plant use efficiency ranged from 31 to 62 percent for Groups 4 and 1, respectively, compared with 28 to 42 percent for these two respective size groups in 1967-68. For all sample gins combined, the average capacity utilization in 1968-69 was 42 percent as against 33 percent during the previous season.

Total book costs, 1/ reflecting these higher average rates of seasonal plant use, were lower this year for all gin size groups. The per bale range was \$23.72 for Group 2 to \$25.08 for Group 4, with a sample average of \$24.37 (tables 2-6). Last year this range was \$24.77 to \$26.54 per bale for Groups 3 and 4, respectively, with a sample average of \$25.87 per bale.

Book costs per bale were about the same for Groups 1 and 2, although average capacity utilization for Group 2 gins was much lower than for Group 1 -- 44 percent, compared with 66 percent. This apparent contradiction to the inverse relationship normally expected between plant capacity utilization and operating costs can be partially explained by differences in plant ages between the two size groups. In Group 2, there is a predominance of older plants, manifesting itself in lower average per bale costs for depreciation and interest. Comparatively lower energy and labor costs noted in the tables would also indicate more efficient utilization of these two important inputs by this size group.

Standardization of depreciation and interest raised operating costs in each size category. Standardized book costs ranged from \$26.26 per bale for Group 1 to \$31.30 per bale for Group 4 (tables 7-11). The average for all sample gins combined was \$28.73 per bale. In 1967-68, standardized book costs ranged from \$28.49 to \$32.46 per bale for Groups 3 and 2, respectively, with a four-group average of \$30.64 per bale.

Out-of-pocket costs (book costs excluding depreciation and interest) ranged from \$18.75 to \$20.41 per bale for Groups 4 and 2, respectively, and averaged \$19.36 per bale for all 42 gins combined. These costs are significant since they indicate the minimum income necessary for the short-run operation of a gin plant which is fully owned (operated without borrowed capital). Adverse weather conditions prolonged the ginning season and contributed substantially to the higher labor costs in 1968-69. Other cost categories which were generally higher were repairs and miscellaneous. Increases in these three specific cost items more than offset declines in others, resulting in an over-all increase of \$0.30 per bale in out-of-pocket costs for the all-group average, compared with 1967-68.

Wide variations in capacity utilization rates make meaningful comparisons of operating costs between and among gin plants difficult. To alleviate this problem, capacity utilization rates were synthetically adjusted upward to a uniform level for all four size groups (see appendix). This level was arbitrarily chosen at 70 percent. Differences in costs at this assumed seasonal operation level in comparison with actual levels ranged from \$1.18 for the smallest to \$7.33 per bale for the largest size group (table 12). Book costs per bale at the 70-percent level of capacity utilization ranged from \$22.57 for Group 1 to \$17.75 for Group 4.

1/ For definitions of underlined terms, description of methodology, and outline of allocation and adjustment procedures, see appendix.

Table 2.--Group 1 gin book costs per bale, by ranges and averages, sample gin firms, West Texas, 1967-68 and 1968-69 seasons 1/

Item	1967-68 costs per bale		1968-69 costs per bale	
	Range <u>2/</u>	Average	Range <u>2/</u>	Average
	Dollars			
Management.....	0.80 - 28.44	4.21	1.68 - 11.63	3.62
Depreciation.....	1.61 - 13.36	4.45	1.11 - 7.46	3.00
Interest.....	0 - 6.66	.79	0 - 2.80	.97
Insurance.....	.29 - 1.15	.41	.11 - 1.46	.29
Taxes.....	.10 - 2.50	.53	.11 - 1.09	.35
Energy.....	1.27 - 4.28	2.21	1.52 - 4.10	1.97
Labor.....	3.72 - 8.86	4.76	3.52 - 11.00	5.30
Bagging and ties....	2.54 - 3.73	2.93	2.27 - 3.51	2.68
Repairs.....	1.51 - 10.78	3.56	1.13 - 7.33	3.82
Miscellaneous.....	.93 - 7.14	2.27	.99 - 3.62	1.75
Total.....	14.28 - 76.61	26.12	17.07 - 35.31	23.75

1/ Group 1 -- 8 bales or less per hour rated ginning capacity. Book costs taken from gin records and subjected to uniform allocation procedures as outlined in the appendix.

2/ Individual cost items do not add to "total" since the same gin plant was not consistently highest or lowest in size group range; total indicates the range in total costs for gins in this size group.

Table 3.--Group 2 gin book costs per bale, by ranges and averages, sample gin firms, West Texas, 1967-68 and 1968-69 seasons 1/

Item	1967-68 costs per bale		1968-69 costs per bale	
	Range <u>2/</u>	Average	Range <u>2/</u>	Average
	----- Dollars -----			
Management.....	2.09 - 29.03	4.28	2.65 - 6.12	3.76
Depreciation.....	2.66 - 30.11	4.99	1.01 - 5.70	2.76
Interest.....	0 - 11.98	.97	0 - 3.83	.55
Insurance.....	.23 - 3.73	.44	.20 - .60	.29
Taxes.....	.18 - 3.90	.53	.14 - .89	.39
Energy.....	1.00 - 3.97	2.00	.89 - 3.43	1.76
Labor.....	2.93 - 6.63	4.50	3.63 - 6.07	5.05
Bagging and ties....	2.26 - 3.32	2.72	2.37 - 3.06	2.63
Repairs.....	1.08 - 6.60	3.64	1.04 - 6.64	3.99
Miscellaneous.....	.143 - 12.30	2.36	.91 - 4.59	2.54
Total.....	21.24 - 96.45	26.43	19.16 - 30.12	23.72

1/ Group 2 -- 9 through 11 bales per hour rated ginning capacity. Book costs taken from gin records and subjected to uniform allocation procedures as outlined in the appendix.

2/ Individual cost items do not add to "total" since the same gin plant was not consistently highest or lowest in size group range; total indicates the range in total costs for gins in this size group.

Table 4.--Group 3 gin book costs per bale, by ranges and averages, sample gin firms, West Texas, 1967-68 and 1968-69 seasons 1/

Item	1967-68 costs per bale		1968-69 costs per bale	
	Range <u>2/</u>	Average	Range <u>2/</u>	Average
	----- Dollars -----			
Management.....	2.09 - 5.91	2.90	1.39 - 5.25	2.65
Depreciation.....	2.39 - 13.26	5.57	1.70 - 16.17	4.32
Interest.....	0 - 2.29	.80	0 - 3.08	.73
Insurance.....	.10 - 1.32	.31	.11 - .70	.32
Taxes.....	.16 - .63	.36	.12 - .86	.34
Energy.....	1.30 - 3.52	2.29	.86 - 3.32	2.17
Labor.....	3.63 - 5.96	4.54	4.48 - 9.61	5.41
Bagging and ties....	2.38 - 2.86	2.69	2.40 - 2.85	2.72
Repairs.....	1.23 - 7.15	3.72	2.10 - 5.68	3.44
Miscellaneous.....	.93 - 3.07	1.59	.85 - 4.04	2.17
Total.....	20.40 - 36.76	24.77	17.99 - 42.35	24.27

1/ Group 3 -- 12 through 20 bales per hour rated ginning capacity. Book costs taken from gin records and subjected to uniform allocation procedures as outlined in the appendix.

2/ Individual cost items do not add to "total" since the same gin plant was not consistently highest or lowest in size group range; total indicates the range in total costs for gins in this size group.

Table 5.--Group 4 gin book costs per bale, by ranges and averages, sample gin firms, West Texas, 1967-68 and 1968-69 seasons 1/

Item	1967-68 costs per bale		1968-69 costs per bale	
	Range <u>2/</u>	Average	Range <u>2/</u>	Average
	Dollars			
Management.....	1.96 - 7.45	2.71	1.06 - 12.13	2.42
Depreciation.....	2.09 - 18.76	7.42	1.06 - 40.83	6.01
Interest.....	0 - 2.88	.76	0 - 8.15	.32
Insurance.....	.23 - 1.02	.41	.14 - 1.65	.32
Taxes.....	.14 - 1.12	.51	.12 - 1.42	.42
Energy.....	1.64 - 4.49	2.33	1.07 - 6.75	2.18
Labor.....	3.18 - 5.66	4.28	3.81 - 7.55	4.48
Bagging and ties....	2.64 - 3.47	2.87	2.64 - 2.91	2.71
Repairs.....	2.83 - 4.99	3.60	2.23 - 9.75	4.04
Miscellaneous.....	1.31 - 2.22	1.65	1.29 - 5.64	2.18
Total.....	17.19 - 48.96	26.54	15.35 - 96.78	25.08

1/ Group 4 -- 21 bales or more per hour rated ginning capacity. Book costs taken from gin records and subjected to uniform allocation procedures as outlined in the appendix.

2/ Individual cost items do not add to "total" since the same gin plant was not consistently highest or lowest in size group range; total indicates the range in total costs for gins in this size group.

Table 6.--Groups 1 - 4 combined gin book costs per bale, by ranges and averages, sample gin plants, West Texas, 1967-68 and 1968-69 seasons 1/

Item	1967-68 costs per bale		1968-69 costs per bale	
	Range <u>2/</u>	Average	Range <u>2/</u>	Average
	----- Dollars -----			
Management.....	0.80 - 29.03	3.24	1.06 - 12.13	2.92
Depreciation.....	1.61 - 30.11	6.00	1.01 - 40.83	4.40
Interest.....	0 - 11.98	.81	0 - 8.15	.61
Insurance.....	.10 - 3.73	.38	.11 - 1.65	.31
Taxes.....	.10 - 3.90	.47	.11 - 1.42	.38
Energy.....	1.00 - 4.49	2.24	.86 - 6.75	2.08
Labor.....	2.93 - 8.86	4.47	3.52 - 11.00	5.03
Bagging and ties....	2.26 - 3.73	2.79	2.27 - 3.51	2.70
Repairs.....	1.08 - 10.78	3.64	1.04 - 9.75	3.79
Miscellaneous.....	.93 - 12.30	1.83	.85 - 5.64	2.15
Total.....	14.28 - 96.45	25.87	15.35 - 96.78	24.37

1/ Group 1 -- 8 bales or less, Group 2 -- 9 through 11 bales, Group 3 -- 12 through 20 bales, and Group 4 -- 21 bales or more per hour rated ginning capacity. Book costs taken from gin records and subjected to uniform allocation procedures as outlined in the appendix.

2/ Individual cost items do not add to "total" since the same gin plant was not consistently highest or lowest in size group range; total indicates the range in total costs for gins in all four size groups.

Table 7.--Group 1 gin costs per bale, by costing methods and cost item, sample gin firms, West Texas, 1967-68 and 1968-69 seasons 1/

Item	1967-68 costs per bale			1968-69 costs per bale		
	: Book	: Standardized	: Out-of-	: Book	: Standardized	: Out-of-
	: <u>2/</u>	: book	: pocket	: <u>2/</u>	: book	: pocket
	: <u>2/</u>	: 3/	: 4/	: <u>2/</u>	: 3/	: 4/
	Dollars					
Management.....	4.21	4.21	4.21	3.62	3.62	3.62
Depreciation.....	4.45	6.29	--	3.00	4.63	--
Interest.....	.79	2.18	--	.97	1.85	--
Insurance.....	.41	.41	.41	.29	.29	.29
Taxes.....	.53	.53	.53	.35	.35	.35
Energy.....	2.21	2.21	2.21	1.97	1.97	1.97
Labor.....	4.76	4.76	4.76	5.30	5.30	5.30
Bagging and ties....	2.93	2.93	2.93	2.68	2.68	2.68
Repairs.....	3.56	3.56	3.56	3.82	3.82	3.82
Miscellaneous.....	2.27	2.27	2.27	1.75	1.75	1.75
Total.....	26.12	29.35	20.88	23.75	26.26	19.78

1/ Group 1 -- 8 bales or less per hour rated ginning capacity.

2/ Book costs taken from gin records and subjected to uniform allocation procedures as outlined in the appendix.

3/ Standardized book costs are book costs from which effects of variations in rates used in computing depreciation and interest have been eliminated.

4/ Out-of-pocket costs are book costs from which depreciation and interest have been excluded.

Table 8.--Group 2 gin costs per bale by costing methods and cost items, sample gin plants, West Texas, 1967-68 and 1968-69 seasons 1/

Item	1967-68 costs per bale			1968-69 costs per bale		
	Book	Standardized	Out-of-	Book	Standardized	Out-of-
	<u>2/</u>	book	pocket	<u>2/</u>	book	pocket
	3/	3/	4/	3/	3/	4/
	Dollars					
Management.....	4.28	4.28	4.28	3.76	3.76	3.76
Depreciation.....	4.99	8.92	--	2.76	5.74	--
Interest.....	.97	3.07	--	.55	2.33	--
Insurance.....	.44	.44	.44	.29	.29	.29
Taxes.....	.53	.53	.53	.39	.39	.39
Energy.....	2.00	2.00	2.00	1.76	1.76	1.76
Labor.....	4.50	4.50	4.50	5.05	5.05	5.05
Bagging and ties...	2.72	2.72	2.72	2.63	2.63	2.63
Repairs.....	3.64	3.64	3.64	3.99	3.99	3.99
Miscellaneous.....	2.36	2.36	2.36	2.54	2.54	2.54
Total.....	26.43	32.46	20.47	23.72	28.48	20.41

1/ Group 2 -- 9 through 11 bales per hour rated ginning capacity.

2/ Book costs taken from gin records and subjected to uniform allocation procedures as outlined in the appendix.

3/ Standardized book costs are book costs from which effects of variations in rates used in computing depreciation and interest have been eliminated.

4/ Out-of-pocket costs are book costs from which depreciation and interest have been excluded.

Table 9.--Group 3 gin costs per bale, by costing methods and cost items, sample gin plants, West Texas, 1967-68 and 1968-69 seasons 1/

Item	1967-68 costs per bale			1968-69 costs per bale		
	: Book	: Standardized	: Out-of-	: Book	: Standardized	: Out-of-
	: <u>2/</u>	: book	: pocket	: <u>2/</u>	: book	: pocket
	: <u>3/</u>	: <u>3/</u>	: <u>4/</u>	: <u>3/</u>	: <u>3/</u>	: <u>4/</u>
	----- Dollars -----					
Management.....	2.90	2.90	2.90	2.65	2.65	2.65
Depreciation.....	5.57	7.62	--	4.32	6.11	--
Interest.....	.80	2.47	--	.73	2.33	--
Insurance.....	.31	.31	.31	.32	.32	.32
Taxes.....	.36	.36	.36	.34	.34	.34
Energy.....	2.29	2.29	2.29	2.17	2.17	2.17
Labor.....	4.54	4.54	4.54	5.41	5.41	5.41
Bagging and ties....	2.69	2.69	2.69	2.72	2.72	2.72
Repairs.....	3.72	3.72	3.72	3.44	3.44	3.44
Miscellaneous.....	1.59	1.59	1.59	2.17	2.17	2.17
Total.....	24.77	28.49	18.40	24.27	27.66	19.22

1/ Group 3 -- 12 through 20 bales per hour rated ginning capacity.

2/ Book cost taken from gin records and subjected to uniform allocation procedures as outlined in the appendix.

3/ Standardized book costs are book costs from which effects of variations in rates used in computing depreciation and interest have been eliminated.

4/ Out-of-pocket costs are book costs from which depreciation and interest have been excluded.

Table 10.--Group 4 gin costs per bale, by costing methods and cost items, sample gin plants, West Texas, 1967-68 and 1968-69 seasons 1/

Item	1967-68 costs per bale			1968-69 costs per bale		
	Book	Standardized	Out-of-	Book	Standardized	Out-of-
	2/	book	pocket	2/	book	pocket
	3/	3/	4/	3/	3/	4/
	Dollars					
Management.....	2.71	2.71	2.71	2.42	2.42	2.42
Depreciation.....	7.42	10.52	--	6.01	9.13	--
Interest.....	.76	3.37	--	.32	3.42	--
Insurance.....	.41	.41	.41	.32	.32	.32
Taxes.....	.51	.51	.51	.42	.42	.42
Energy.....	2.33	2.33	2.33	2.18	2.18	2.18
Labor.....	4.28	4.28	4.28	4.48	4.48	4.48
Bagging and ties...	2.87	2.87	2.87	2.71	2.71	2.71
Repairs.....	3.60	3.60	3.60	4.04	4.04	4.04
Miscellaneous.....	1.65	1.65	1.65	2.18	2.18	2.18
Total.....	26.54	32.25	18.36	25.08	31.30	18.75

1/ Group 4 -- 21 bales or more per hour rated ginning capacity.

2/ Book costs taken from gin records and subjected to uniform allocation procedures as outlined in the appendix.

3/ Standardized book costs are book costs from which effects of variations in rates used in computing depreciation and interest have been eliminated.

4/ Out-of-pocket costs are book costs from which depreciation and interest have been excluded.

Table 11.--Groups 1 - 4, gin costs per bale, by costing methods and cost items, sample gin firms, West Texas, 1967-68 and 1968-69 seasons 1/

Item	1967-68 costs per bale			1968-69 costs per bale		
	: Book	: Standardized	: Out-of-	: Book	: Standardized	: Out-of-
	: <u>2/</u>	: book	: pocket	: <u>2/</u>	: book	: pocket
	: 2/	: 3/	: 4/	: 2/	: 3/	: 4/
	Dollars					
Management.....	3.24	3.24	3.24	2.92	2.92	2.92
Depreciation.....	6.00	8.72	--	4.40	6.77	--
Interest.....	.81	2.86	--	.61	2.60	--
Insurance.....	.38	.38	.38	.31	.31	.31
Taxes.....	.47	.47	.47	.38	.38	.38
Energy.....	2.24	2.24	2.24	2.08	2.08	2.08
Labor.....	4.47	4.47	4.47	5.03	5.03	5.03
Bagging and ties...	2.79	2.79	2.79	2.70	2.70	2.70
Repairs.....	3.64	3.64	3.64	3.79	3.79	3.79
Miscellaneous.....	1.83	1.83	1.83	2.15	2.15	2.15
Total.....	25.87	30.64	19.06	24.37	28.73	19.36

1/ Group 1 -- 8 bales or less, Group 2 -- 9 through 11 bales, Group 3 -- 12 through 20 bales, and Group 4 -- 21 bales or more per hour rated ginning capacity.

2/ Book costs taken from gin records and subjected to uniform allocation procedures as outlined in the appendix.

3/ Standardized book costs are book costs from which effects of variations in rates used in computing depreciation and interest have been eliminated.

4/ Out-of-pocket costs are book costs from which depreciation and interest have been excluded.

Table 12.--Average costs per bale adjusted to 70 percent, by gin size groups, sample gin firms, West Texas, 1967-68 and 1968-69 seasons 1/

Item	1967-68 costs per bale				1968-69 costs per bale			
	Gin size group				Gin size group			
	1	2	3	4	1	2	3	4
	----- <u>Dollars</u> -----							
<u>Book 2/</u>								
Management.....	2.69	2.05	1.83	1.25	3.33	2.70	2.14	1.44
Depreciation.....	2.66	2.14	3.22	2.97	2.65	1.72	3.06	2.64
Interest.....	.47	.42	.46	.30	.86	.34	.52	.14
Insurance.....	.29	.25	.21	.22	.27	.21	.26	.18
Taxes.....	.32	.23	.21	.20	.31	.24	.24	.18
Energy.....	1.97	1.62	2.01	1.79	1.92	1.57	2.00	1.73
Labor.....	4.31	3.80	3.26	3.28	5.03	4.07	4.70	2.97
Bagging and ties.....	2.93	2.72	2.69	2.87	2.68	2.63	2.72	2.71
Repairs.....	3.50	3.55	3.59	3.32	3.78	3.91	3.36	3.73
Miscellaneous.....	2.22	2.29	1.53	1.54	1.74	2.50	2.13	2.03
Total book.....	21.36	19.07	19.01	17.74	22.57	19.89	21.13	17.75
<u>Standardized book 3/</u>								
Depreciation.....	3.76	3.83	4.40	4.22	4.09	3.58	4.33	4.00
Interest.....	1.30	1.32	1.43	1.35	1.63	1.45	1.65	1.50
Total standardized book.....	23.29	21.66	21.16	20.04	24.78	22.86	23.53	20.47

1/ See appendix for description of adjustment procedures.

2/ Book costs taken from gin records and subjected to uniform allocation and adjustment procedures.

3/ Standardized book costs are book costs from which effects of variations in rates used in computing depreciation and interest have been eliminated.

APPENDIX: METHODOLOGY

Gins vary widely by type of organization, ownership structure, accounting procedures, and in many other ways. In analyzing costs reported by sample gins, uniform allocation procedures were employed to compensate for some of these differences.

Costs of hauling cottonseed and lint such as truck drivers' wages, truck depreciation, insurance, road-use taxes, and associated truck-operating costs were excluded.

Cost Allocations

Management: Where applicable, includes salaries, bonuses, commissions, expense allowance, house rent, and personal insurance policies for owners and managers; bookkeeping and other office salaries; home office cost (line companies); social security taxes, workmen's compensation insurance, and any other insurance on management and office personnel.

Depreciation: Includes allowances for depreciation exactly as carried on gin records except under standardized book and out-of-pocket costs.

Interest: Includes interest exactly as carried on gin records except under standardized book and out-of-pocket costs.

Insurance: Includes all forms of insurance on gin buildings, equipment, housing furnished management and labor, cotton products, and automotive equipment (except large trucks and trailers).

Taxes: Includes all taxes on real property only.

Energy: Includes all utilities--electricity, gas, and water--used in ginning and directly related operations.

Labor: Includes gin wages, social security, workmen's compensation, and any other insurance of gin labor borne by the gin, plus any rental housing furnished labor. (Excludes gin repair labor, see "Repairs" below.)

Bagging and ties: Includes actual cost of bagging and ties purchased.

Repairs: Includes gin repair wages, social security, workmen's compensation, and other insurance on gin repair labor borne by the gin; plus the cost of repair materials and supplies.

Miscellaneous: Includes combined car and pickup, tractor, and other automotive expense; telephone and telegraph; advertising and promotion; legal and audit; dues (except C.P.I. dues), memberships, and suscriptions; annual meetings, directors' fees and expenses; conventions and travel expenses; donations and contributions; cotton losses from fire; sampling, compressing, and related charges; gin supplies; and any other costs not included elsewhere.

Costing Methods

Book costs: Gin costs which have been subjected to the above allocations are identified in this report as book costs.

Standardized book costs: Book costs from which the effects of variations in rates used in computing depreciation and interest have been eliminated by adopting uniform rates. Depreciation was set at 10 percent of the initial purchase price of capital items carried on the depreciation schedule regardless of age or former method of depreciation. Interest was charged at 7 percent on the estimated average land values for the general area and 7 percent on one-half the cost of buildings, machinery, and equipment.

Out-of-pocket costs: Book costs from which depreciation and interest have been excluded.

Adjustment Procedures

The projection of actual ginning costs to other than existing levels of capacity utilization can be made by applying the following formula to each individual cost item with the exception of depreciation, interest, and taxes which were computed on annual total dollars for all levels of capacity utilization. Per bale cost of bagging and ties was held constant at all volume levels.

Cost for sample gin size group when oper- ating at <u>current</u> level of capacity utilization <hr style="width: 100%;"/>	=	Cost for sample gin size group when oper- ating at <u>desired</u> level of capacity utilization <hr style="width: 100%;"/>
Cost for comparative model gin operating at <u>current</u> level of capacity utilization		Cost for comparative model gin operating at <u>desired</u> level of capacity utilization

Example: Adjustment of management cost for Group 2 (1968-69) to 70-percent capacity utilization as shown in table 12.

Given:

Management cost at current level of capacity utilization (44 percent)

= \$3.76 (table 8, 1968-69)

Management cost at desired level of capacity utilization (70 percent)

= "x"

Management in comparative model at current level of capacity utilization

= \$2.94 1/

Management in comparative model at desired level of capacity utilization

= \$2.11 1/

$$\frac{\$3.76}{\$2.94} = \frac{"x"}{\$2.11}$$

$$"x" = \$2.70$$

^{1/} Wilmot, Charles A., Stedronsky, Victor L., Looney, Zolon M., and Moore, Vernon P., Engineering and Economic Aspects of Cotton Gin Operations--Midsouth, West Texas, Far West, U.S. Dept. Agr., Agr. Econ. Rpt. 116, July 1967, Revised publication pending.

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